

41
45. (Amended) A turbo-molecular pump according to claim 43, wherein said impact absorbing structure comprises a friction reducing mechanism provided between an inner casing surrounding said vane pumping section and/or said groove pumping section, and said stator or said casing portion.

46. (Amended) A turbo-molecular pump according to claim 43, wherein said impact absorbing structure comprises an impact absorbing member provided between an inner casing surrounding said vane pumping section and/or said groove pumping section, and said stator or said casing portion.

42
51. (Amended) A turbo-molecular pump according to claim 38, further comprising:
a sealing portion provided between a portion of said stator which is caused to be rotated with a rotating element by said abnormal torque, and a portion which is not rotated with the rotating element by said abnormal torque and is stationary.

54. (Amended) A turbo-molecular pump according to claim 52, wherein said inner casing and/or said casing portion is comprised of a high thermal conductivity material.

43
55. (Amended) A turbo-molecular pump according to claim 38, wherein said vane pumping section and/or said groove pumping section stator is attached to said casing portion by way of a friction reducing mechanism.

65. (Amended) A turbo-molecular pump according to claim 63, wherein said impact absorbing structure comprises an inner casing surrounding said vane pumping section and/or said groove pumping section.

C4
66. (Amended) A turbo-molecular pump according to claim 65, wherein said impact absorbing structure comprises a friction reducing mechanism provided between said inner casing, and said stator or said casing portion.

67. (Amended) A turbo-molecular pump according to claim 65, wherein said impact absorbing structure comprises an impact absorbing member provided between said inner casing, and said stator or said casing portion.

72. (Amended) A turbo-molecular pump according to claim 59, further comprising:
a sealing portion provided between a portion of said stator which is caused to be rotated with a rotating element by said abnormal torque, and a portion which is not rotated with the rotating element by said abnormal torque and is stationary.

C6
75. (Amended) A turbo-molecular pump according to claim 73, wherein said inner casing and/or said casing portion is comprised of a high thermal conductivity material.

76. (Amended) A turbo-molecular pump according to claim 59, wherein said vane pumping section and/or said groove pumping section stator is attached to said casing portion by way of a friction reducing mechanism.

80. (Amended) A turbo-molecular pump comprising:
a casing portion housing a stator and a rotor therein;
a vane pumping section and/or a groove pumping section comprised by said stator and said rotor;
an inner casing surrounding said vane pumping section and/or said groove pumping section;
and
a temperature adjusting mechanism provided inside said inner casing;
wherein said temperature adjusting mechanism is attached to a spiral groove pumping section spacer.

81. (Amended) A turbo-molecular pump comprising:
a casing portion housing a stator and a rotor therein, said stator surrounding said rotor;
a vane pumping section and/or a groove pumping section comprised by said stator and said rotor;
an inner casing portion surrounding said stator;
a clearance provided between said inner casing portion and said casing portion; and

ca a sealing portion provided between a portion of said inner casing portion or said stator which is caused to be rotated with a rotating element by an abnormal torque which is applied from said rotor to said stator, and said casing portion which is not rotated with the rotating element by said abnormal torque and is stationary.

83. (Amended) A turbo-molecular pump comprising:

a casing portion housing a stator and a rotor therein, said stator surrounding said rotor;

a vane pumping section and/or a groove pumping section comprised by said stator and said rotor; and

ca a sealing portion provided between a portion of said stator which is caused to be rotated with a rotating element by an abnormal torque which is applied from said rotor to said stator, and a portion which is not rotated with the rotating element by said abnormal torque and is stationary.

ca 89. (Amended) A turbo-molecular pump according to claim 88, wherein another cooling device is provided at a downstream side of said cooling device.

ca 93. (Amended) A turbo-molecular pump according to claim 90, wherein another cooling device is provided at a downstream side of said cooling device.

Please add new Claim 100, as follows:

100. (Newly added) A turbo-molecular pump comprising:

a casing portion housing a stator and a rotor therein;

a vane pumping section and/or a groove pumping section comprised by said stator and said rotor; and

a cooling device provided at a lower end portion of said stator of said groove pumping section.
